(No Model.)

J. G. McNAUGHTON.

FRUIT DRIER.

No. 327,006. Patented Sept. 29, 1885.

fig. 1.

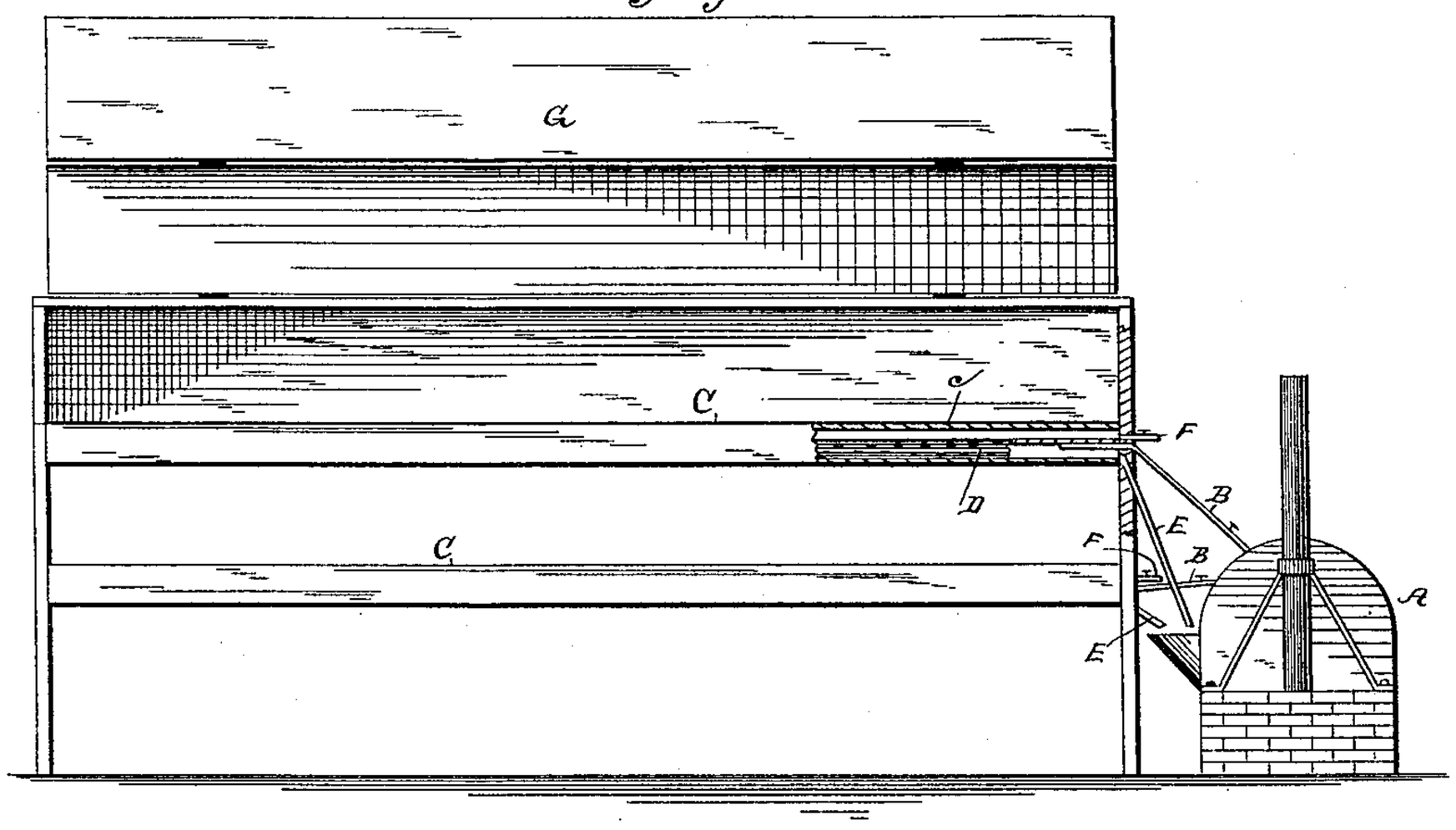
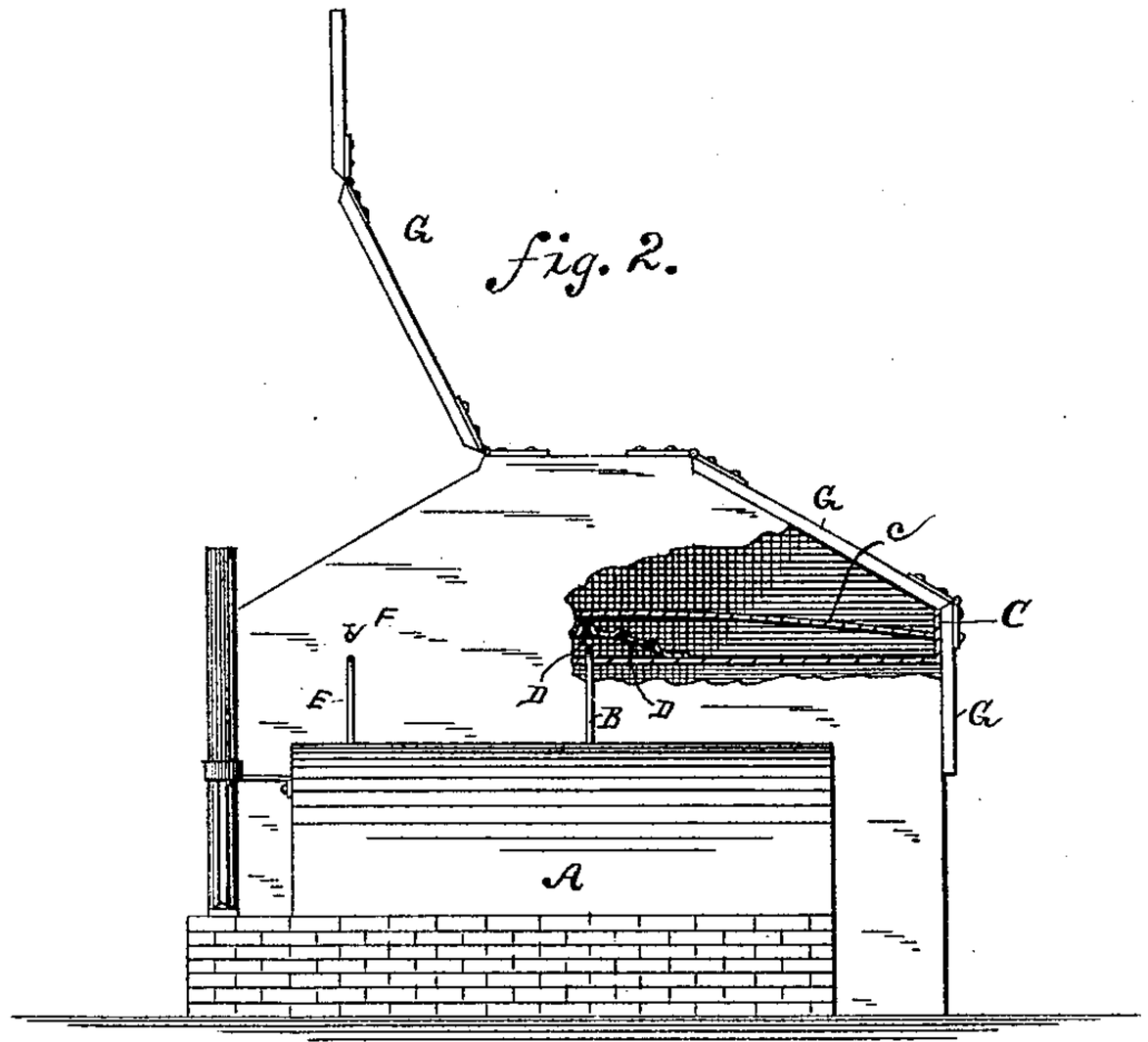


fig. 2.



WITNESSES:
N. B. Brown
W. L. Stevens

INVENTOR:
Jno. G. McNaughton
BY Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN GRELIS McNAUGHTON, OF MARION, NORTH CAROLINA.

FRUIT-DRIER.

SPECIFICATION forming part of Letters Patent No. 327,006, dated September 29, 1885.

Application filed June 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN GRELIS McNAUGHTON, a citizen of the United States, residing at Marion, in the county of McDowell and State of North Carolina, have invented certain new and useful Improvements in Evaporators, of which the following is a description.

This invention relates to that class of devices used for rapidly drying fruit by steam heat; and it has for its object to so control the entrance of steam into the drier and its exit therefrom that the full heat of the steam shall be exhausted before it is allowed to escape.

To this end my invention consists in the construction and combination of parts forming an evaporator, hereinafter described and claimed, reference being had to the accompanying drawings, in which--

Figure 1 is a front elevation of an evaporator according to my invention, having the cover raised and partly broken away to show the interior. Fig. 2 is an end view of the same partly broken away.

A represents the boiler or steam-generator, from which pipes B conduct the steam into the various evaporating-pans, C. Of these pans there may be any number, but they should be located above the level of the boiler, in order that the condensed steam may be allowed to run back into the boiler. The evaporating-pans C are provided each with two bottoms far enough apart to form a steam-compartment between them. The fruit to be dried is to be spread on the upper bottom, *c*, of each pan—that is, within the pan proper. The difficulty has been heretofore to prevent the steam from escaping from the evaporator before parting with its heat. To obviate this, I have provided a steam-spreader consisting of an arch, D, extending the whole length of the evaporator and perforated with a great many fine holes. The steam-pipe B enters beneath this spreader, and the steam entering thereby meets so much resistance from the arch D that it travels the whole length of the arch to find egress through the fine holes. Thus the steam is equally distributed throughout the compartments beneath each tray and above the next lower tray, insuring the even drying of all fruit which has been cut of one thickness, and economizing the fuel.

E represents discharge-pipes through which the condensed steam is returned to the boiler. These pipes discharge from the lower stratum of each steam-compartment, and they are large enough to permit the exit of all the steam used, when condensed. But to provide against any surplus steam-pressure, I supply small steam-discharge pipes F in each compartment, at a higher level than the pipes E. The pipes F are not large enough to cause much loss of dry steam, but they answer as safety-escapes in case of high pressure.

G represents the usual hinge-cover for the evaporator. The arch D acts as a very broad spraying-nozzle to the steam-pipe B.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of a series of pans C, each provided with two bottoms forming a steam-compartment between them, the steam-spreaders D, each consisting of an arched passage closed at its bottom and finely perforated throughout the whole area of its arched top, located within the steam-compartments and extending the length thereof, the steam pipe B, and the discharge-pipe E, entering the space beneath the arch, substantially as shown and described.

JOHN GRELIS McNAUGHTON.

Witnesses:
V. R. BUTT,
D. D. JOHNSON.